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ABSTRACT

In 1997, the report of the National Library of Education advisory Task Force called for creation of an education information network. Such a network would provide resources to all potential users, young and old, male and female, throughout the United States. With the call to create a United States Educational Information Network (USEIN) has come the need to consider the issues of access and equity in regard to obtaining all forms of information. There are clearly a number of citizens who have difficulty accessing this information, particularly in electronic format. This paper identifies the under-represented groups, those who have difficulty accessing information in both print and electronic formats, and outlines some possible solutions to help extend access to all citizens. The paper also examines several possible partners and models for the USEIN in its effort to reach all Americans. Access to information has long been a problem related to libraries and their efforts to reach all sectors of the population. With the growth of computer use and the development of the World Wide Web, new problems face librarians and other information specialists in disseminating information to all potential users. (Contains 28 references.) (Author/SWC)

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ED 414 904

Access and Equity Issues in Providing Effective Educational Information Services Through the USEIN

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ABSTRACT

In 1997 the report of the National Library of Education Advisory Task Force called for creation of an education information network. Such a network would provide resources to all potential users, young and old, male and female throughout the United States. With the call to create a United States Educational Information Network (USEIN) has come the need to consider the issues of access and equity in regards to obtaining all forms of information.

Although there are many efforts throughout the U.S. to provide information to all Americans there are clearly a number of citizens who have difficulty accessing this information particularly in electronic format. This paper attempts to identify the under represented groups, those who have difficulty accessing information in both print and electronic formats and to outline some possible solutions to help extend access to all citizens. Additionally this paper examines several possible partners and models for the USEIN in its effort to reach all Americans.

It should be noted that access to information has long been a problem related to libraries and their efforts to reach all sectors of the population. Prior to the development of the information superhighway library users in rural America had problems simply reaching the local or public library. With the growth of computer use and the development of the world wide web new problems face librarians and other information specialists in terms of disseminating information to all potential users. Many of these problems are addressed with regard to the newly proposed United States Educational Information Network.

In April 1996 then president of the American Libraries Association (ALA) Betty Turock stated "Nothing is more important to the future of our country than equal access to information for all people." (Wallace 1996) She then went on to say "Information is the currency of democracy." These statements at the beginning of National Library week in April 1996 drive home the need for making access to information a major concern for all in the library world. This paper will consider the issues of access to information as well as examining potential partners for the proposed United States Educational Information Network (USEIN). In addition the paper will consider already existing information networks that the USEIN may use as its model.

With the opening of the National Library of Education (NLE) in 1994 it was only a matter of time before an information network would be formed to help disseminate educational information to all U.S. citizens. In February 1997 the NLE task force published the document Access for All: A New National Library for Tomorrow's Learners. Included in this document is the vision statement for the NLE:

> A future in which all persons have equal access to the information necessary to their personal and professional growth. To accomplish this goal, the National Library of Education will become the major national network providing access to education information through collections and other sources of education-related material. (Access for All 1997)

Access is then defined in the same document as "providing all customers with effective and efficient means to utilize the NLE's information resources in all formats." (Access for All 1997) Further, access to services and resources at the NLE should provide a clear opportunity to obtain educational information for all U.S. citizens. In addition every effort should be made by the NLE to cooperate with the proposed U.S. Educational Information Network. It is within the framework of this network, the USEIN, that we must consider the issues of access and equity.

As a federally administered national service, USEIN must serve all Americans. But is it in fact capable of reaching all citizens? Are all Americans truly able to access information in its current multiple formats -- electronic and print? If we consider that the USEIN is to be a network of computers, pc's, web sites, and home pages then the answer to that question is an emphatic "no!" We already realize that many Americans are not even close to the entrance ramp of the information super highway.

Who are the Americans not getting this equal access to or equal service from already existing networks and why are certain sectors of the American population left out of the information super highway? They are the same people that are typically and too often left out of many opportunities afforded other Americans. Several of the groups that are "left out" are easily identified: handicapped; women; and a number of ethnic minorities including Native Americans. Then there are other groups that don't come to mind so readily: the homeless; and our rural poor, the men, women and children who live in impoverished areas of America outside the inner city. In addition the under represented include many of our nation's immigrants both legal and illegal who often enter the United States and initially make their homes in major urban areas like Los Angeles and New York. Although many of these same immigrants are educated professionals many are not finding it difficult for them to participate in the information super highway. And although much is being done in public libraries to reach out to the under represented immigrants many libraries simply cannot reach these people for a number of reasons including funding, language barriers, time, etc. Yet these are some of the very people we want the USEIN to reach.

If we examine the increasing number of computers in homes and schools in the United States since the introduction of the personal computer in the 1970's we can readily see that some

groups in the U.S.A. have been consistently neglected. Look at our schools. Recent studies show that there is a disparity among American schools regarding computer usage. (Neuman 1990) In her paper "Beyond the Chip: A Model for Fostering Equity" Delia Neuman indicates that equity issues pertain directly to financial status, race, gender, geography, handicapping and level of academic abilities. It seems that young white males even in this age of "political correctness" are still the most likely to have access to and as a result are the most likely to use computers. Melissa Mangione in her presentation to the Association for Educational Communications and Technology illustrates the inequity that has resulted with regard to computer usage among females. In addition Mangione argues that "social differences" including gender and race affect access to computers and therefore information. (Mangione 1995)

Studies have shown that schools with large white populations in affluent areas are more likely to have computers and in fact these same schools are more likely to graduate students with advanced computer skills like programming and network proficiency than their counterparts in the inner city and rural America where basic computer software applications are the only computer skills taught in the schools. If one considers this situation over the last twenty years it is obvious that large portions of society are once again left out. This is likely to leave behind the many members of our constituency who need to be affected by a network such as the USEIN. This poses the threat of losing several sectors of the population, groups who in fact may benefit from the proposed education network. This group of "left out" users are often students in multi-racial urban schools. Schools where as mentioned above simple computer applications are taught rather than the more advanced skills of programming and computer awareness. Often these are the schools that house our largest minority (i.e. African-Americans, Latinos) populations with limited

access to computers and more recently limited access to the web. The information illiterate include the children whose school districts simply cannot afford to provide the quantity of computers that are necessary to educate its students much less provide the upgrading of hardware and software that is currently required.

If I consider the situation at California State University, Long Beach where I serve as an Associate Librarian, I see an increasing number of students every year with simple skills such as keyboarding and word processing entering the university. On the other hand a still larger number of students come to the university with little skill at finding and analyzing information. Much of this can be attributed to the passage of proposition 13 in California which resulted in the reduced funding for school libraries and media centers. As a result, literally thousands of the students who attend California's institutions of higher education each year come forward with almost no exposure to libraries and little sense of information seeking. Among the most disadvantaged are those students who attend inner city public schools without ever having attended a bibliographic instruction session because their schools may in fact not employ even a single librarian or credentialed library media professional. Typically these students come from high schools with large ethnic and immigrant populations. Often they are the first in their families to attend college and of course their parents are again typically completely unfamiliar with the nuances of the information age. All of this results in a disenfranchised or under represented population within our "information democracy." (Doctor 1994)

Another less easily identifiable group are those people who reside in rural America. Although connectivity to the Internet is rapidly spreading in less populated areas of the U.S. there are still those areas where connections are limited. This is the heartland of America or the areas

often referred to as "middle America" where networking with neighbors is important but access to libraries and other information centers may be challenging. These are rural parts of the U.S. where public libraries have limited resources resulting in little or no information networking. David H. Brunell, Executive Director of the Bibliographical Center for Research, points out in his article on Library networking that providing reliable database services can be problematic. He comments, "Web servers are relatively expensive computers, and Web database services still require a significant amount of maintenance." (Brunell 1997) Furthermore the windows software required for most World Wide Web browsers is still not used in many smaller (rural) libraries because they do not have personal computers powerful enough to work well in this environment.

Similarly, access to sophisticated information networks and to the web is often difficult for the handicapped and the elderly. Those persons who may not have the physical ability to either use computers or have the ability to commute to a library may in fact be unintentionally restricted in accessing the USEIN. Again these are the very people that our proposed network needs to identify and include in its outreach.

Another under represented group with regard to library services and information networking is the Native American population. The 1990 census indicates there are approximately two million Native Americans throughout the United States of America. (Pathways to Excellence 1992) Since the 1970's the National Commission on Libraries and Information Science (NCLIS) has been aware of deficiencies in library and information services to Native Americans. As a result the commission undertook a series of regional hearings beginning in 1989 to determine the level of information needs and the response to those needs. The result was a report released in 1992 by the National Commission on Libraries and Information Science.

Done over a three year period the study, Pathways to Excellence, focused on library services related to the Native American. Among their findings the commission stated, "Native American communities present a unique challenge for applying the new technologies to expand the effectiveness of the library and information services Indian peoples need." (Pathways 1992) The report also indicated that American Indians do not typically have access to the "general information" services that are essential to their basic needs. (Pathways 1992) Although much of the report focuses on the problems Native American tribes have utilizing both tribal and other public libraries the report also emphasized the need to provide library services including information networks to Native American groups. The report noted that Native Americans will [need] to have access to tools, technologies, resources, and skills needed to successfully enter the information age of the next century with clear channels to the wisdom of their past. (Pathways 1992) In addition, the libraries do not have the equipment, expertise and knowledge to use new information technologies "and to engage in meaningful networking and resource-sharing activities." (Pathways 1992) Once again we are given a group that would gain from a network such as the proposed education network. The report also emphasized the need to improve access and strengthen cooperative activities. One noted solution is cooperating with school and community libraries to arrange programs of mutual interest. Similarly Pathways encouraged the formation of state and local partnerships together with the federal government to develop "progressive" programs of library and information services for Native Americans. (Pathways 1992) Such partnerships are necessary since as noted above rural America where typically Native American groups are located have few financial resources. As a result Native American libraries and similar information networks must exist within partnerships in order to participate in

the aforementioned information democracy.

The commission report also emphasized the need to improve Native American library service training. The report notes that few of the library employees are in fact professionally trained librarians. (Pathways 1992) "It is estimated that there are less than one hundred Native Americans working in reservation or village libraries, most of whom are paraprofessionals with no formal education or training in library science." (Pathways 1992) This is further evidence of another sector in the United States that does not have adequate access to libraries nor the information networks that our libraries are developing. Although it may seem inconsequential that Native American libraries have no native speakers on their staffs it raises the unique problem of providing good library service especially to the elderly who may not speak proper English.

One of the other areas addressed by the commission in the Pathways report relates to the problem of rural library settings. As noted in Pathways many Indian students are bussed to and from school in order to attend schools that may be a great distance from their homes. This results in many youngsters not arriving home early enough to take advantage of libraries since many are closed when the students return. (Pathways 1992) This problem is not just reserved for Native Americans. Many Americans living in rural areas have the problem of obtaining access to their local libraries because of poor transportation and limited hours of operation. "Isolation has been mentioned as a critical problem, not just in states such as Arizona and Montana (where the distance from home to library may be 50 to 150 miles) but also in smaller states, like those in New England." (Pathways 1992)

All of these groups fall into a larger category of what many people call the information illiterate. These are the people -- elderly, handicapped, minority -- that simply do not have access

to computers and as a result do not have access to the Internet. In addition there is another large segment of society that simply has no interest in computers. Many of these are elderly or people whose formal education terminated before the introduction of the personal computer. Statistics in fact demonstrate that the "vast majority of the public has no skills related to using their new communications technology." (McClure 1994) Typically these are men and women who may see no immediate use for computers nor are they interested in the services computers can provide for them. This is a whole other group being left at the curbside of the information highway. As a result of their disinterest this very large group of Americans have developed inadequate or no computer skills at all. Once again this is a group that might not access the USEIN to the extent they should.

Many of the comments above focus primarily on access to computers and even access to basic library services. In addition it is noted there are many Americans who may have basic computer skills but not necessarily the information skills nor the level of information literacy (the ability to find information in any format and evaluate its content for appropriate purposes) that is required as we approach the twenty first century. During the 1970's and 80's finding information in electronic format typically meant "going online". Dialog, BRS and other online database companies flourished and library education programs typically included requirements that students must know how to search for information online. Now in the nineties a whole new era of information seeking has developed. With the explosive growth of the Internet, particularly the web, all citizens need to be not just computer literate or information literate but now they need to be network literate. "Network literacy - the ability to identify, access and use electronic information from the network - will be a critical skill for tomorrow's citizens if they wish to be

productive and effective in their personal and professional lives." (McClure 1994) This latest development in seeking information has resulted in leaving those without adequate access to the web even further behind.

Ronald Doctor has a different take on the issue of equity and information by calling the problem of information literacy one of "information gaps." (Doctor 1994) He defines information gap as a "disparity between two groups with regard to their abilities to acquire and use information resources well." (Doctor 1994) He goes further arguing that the gap between information rich and the information poor is ever increasing. As mentioned above access to home and school computers vary considerably. Those with access to computers and the Internet basically have a greater advantage educationally and will play a more dominant role in the "Information Democracy." (Doctor 1994) Doctor aptly points out that student competence and school performance strongly correlates to income and affluence. At least one result of being "information poor" is to grow into adulthood and be isolated from political activity. "This isolation inhibits their ability to acquire basic political information, skill and hope." (Doctor 1994) This is a situation that can be corrected with help from networks such as the USEIN.

Although the there are many obvious problems regarding the dissemination of information and providing equal access to all potential users there are many networks, cooperatives and programs that already exist which not only represent excellent examples for the USEIN but also provide partners in such a cooperation. ACCESS ERIC is an excellent example of a model for the United States Educational Informational Network. "ACCESS ERIC is responsible for system-wide outreach, marketing, publicity, and promotion for the ERIC system." Typically within a given year the ACCESS ERIC staff attends and makes presentations at a number of

national conferences including the American Library Association (ALA), Association for Supervision and Curriculum Development (ASCD), National School Boards Association (NSBA) and the Special Libraries Association (SLA). (Brunell 1997) Every effort should be made by the proposed USEIN staff to provide the same level of outreach and to cooperate with professional associations and organizations as well as with the for-profit sector throughout the United States. The Encyclopedia of Associations lists over 1,400 non-profit groups under "education"; 100 associations under faculty; and 250 under library. Each of these organizations are potential contacts for the USEIN representing interests in various parts of the U.S. The AARP (American Association of Retired People), a dynamic national organization represents a major sector of American society whose many members still take an interest in education making it an excellent partner for the U.S. Education Information Network. In addition, there are over one hundred minority organizations in the United States many that focus specifically on the educational needs of their members. This represents another excellent area to which the USEIN could reach out with hopes of extending the educational network. Furthermore, the USEIN should consider reaching out to the local chapters of national organizations both in urban and rural areas. One example, the Special Libraries Association, supports geographic chapters whose members meet regularly throughout the year. Many of its members may not be able to attend the association annual conference but they could in fact attend shorter, local presentations in their immediate area.

The USEIN should consider publishing a regular newsletter and disseminating it throughout the United States on a regular basis. Here again, the ACCESS ERIC program provides an excellent example of outreach for the USEIN. The former regularly publishes the

ERIC Review several times a year distributing it to libraries throughout the U S In addition to providing its own newsletter the USEIN should consider paid advertising in applicable library and education journals. These efforts will result in capturing the attention of many of the professionals in both the library and education fields with the eventual goal of reaching those who may be otherwise under represented or disenfranchised as indicated above.

One way to make in-roads to those who are under represented is to establish partnerships with the many and vast networks that already exist throughout the United States. Many of these networks take the form of "people networks", i.e. personnel from local, often public and academic libraries, arranging to meet on a regular basis to consider common interests in the library world. These networks become an immediate and useful way to include those who may otherwise be left out. Since several of these networks are working together to develop web projects (Brunell 1997) they are again a useful partner for the USEIN. The Bowker Annual provides several examples of these networks including INCOLSA, SOLINET and the MONTICELLO project. The latter is an "ongoing effort to promote regional access to electronic information, funded by major grants from the Telecommunications and Information Infrastructure Assistance Program (TIIAP) and the National Telecommunications and Information Administration (NTIA)." (Bowker 1997) Many other partnerships are being formed to reach potential users through the web. These partnerships go beyond strictly library and library network organizations to include private corporations such as OCLC and others.

In "Library Networking and Cooperation" (Brunell 1997) David Brunell indicates that in 1996 regional library networks were involved in a number of significant efforts to help the library community (especially public libraries) with basic Internet connectivity. As noted above this is a

particular problem in both rural and urban areas where funding may be a significant problem. Several of the network cooperatives provide a variety of connectivity services. Brunell goes on to list several groups or networks that provide such services: SOLINET, SURAnet, OHIONET, CAPCO, the National Science Foundation and the Michigan Library Consortium. All of these represent potential partners for the USEIN. The 1997 Bowker Annual lists 16 members of the "Alliance of Library Service Networks" all of which should also be considered as potential partners for the USEIN: AMIGOS; Bibliographical Center for Research; CAPCON; FEDLINK; ILLINET/OCLC Services; Indiana Cooperative Library Services Authority (INCOLSA); Michigan Library Consortium; MINITEX Library Information Network; Missouri Library Network Corporation; Nebraska Library Commission; NELINET, Inc; OHIONET; PALINET; Southeastern Library Network, Inc.; SUNY/OCLC Network; and Wisconsin Interlibrary Services. (Brunell 1997)

Good news also comes in the form of federal legislation. The Telecommunications Act of 1996 requires that libraries receive significant discounts for telecommunication rates. (Brunell 1997) Similarly the Library Services and Technology Act "was designed to promote library services that provide all users access to information through state, regional, national, and international electronic networks; provide linkages among and between libraries; and promote targeted library services to people of diverse geographic, cultural, and socioeconomic backgrounds; to individuals with disabilities; and to people with limited functional literacy or information skills." Brunell 1997) Similarly in 1997 the Federal Communications Commission (FCC) agreed that funds should be provided to schools, libraries and rural medical facilities to help improve their telecommunications links. The commission further promoted the goal that

schools should have "access to telecommunications services for educational purposes at discounted rates." (FCC Provides 1997) In fact over $2.2 billion has been made available for the purpose of wiring our nation's schools. (Brittain 1997) One criterion for receiving the money is the number of children on the national school lunch program. This qualification helps put the money in school districts that might otherwise be considered at a disadvantage. "The whole purpose of the FCC fund is to equalize the opportunities for all students to have access to communication without regard to the wealth of the school district." (Brittain 1997) These strides in reaching a greater number of Americans paves the way for the USEIN to achieve its goal of reaching as many interested Americans as possible. Schools with connectivity to the web means teacher and parents are also receiving improved services which means the USEIN has a greater potential to reach more people.

Part of the recommendations which came out of the Pathways report cited above regarding Native Americans includes the notion of establishing a National Native American Electronic Network. Such a network should enable the tribes to communicate, cooperate, and share information and materials rapidly. This provides us with another excellent partner for the United States Educational Information Network. In addition, the report strongly recommended participation and cooperation with already existing networks. This is of course a goal of the proposed USEIN as well. As indicated above there already exist a number of library networks and cooperatives many of whom would be excellent partners for the USEIN. The 1997 Bowker Annual lists over five hundred "Networks, Consortia, and other Cooperative Library Organizations" all of which represent potential partners for the USEIN. In the last several years the Bowker Annual has also listed several bibliographic utilities (e.g. OCLC) and regional library

networks (e.g. AMIGOS; CAPCON).* Each of these networks and utilities represent potential partners for the USEIN. Among those already mentioned are SOLINET, SURAnet, OHIONET, CAPCO, the National Science Foundation and the Michigan Library Consortium. Each of these networks typically provides a number of services to its respective communities. Such services include Internet connectivity perhaps the most important function of all. In addition, some of the networks provided discounted hardware and software, installation for both local area networks and wide area networks and even training, workshops and seminars on how to use the Internet. (Brunell 1997) Also of interest is the fact that these library networks are discovering the differences that exist among their potential users which will eventually lead to providing equitable access to all users.

Other networks such as the school-based Science Learning Network (SLN) provide an excellent partner for the USEIN. The SLN which is a partnership of schools, science centers and a for-profit organization (Unisys) provides support for K-8 teachers in science and mathematics. Teachers have access to all types of resources provided by museums, science centers and libraries. (Baumann 1997) The USEIN could easily build on this already existing partnership and provide its resources to the members of the SLN.

Among the potential problems that the USEIN would have to consider in advance of participating in regional, state or national networks is the problem of connectivity, as well as the hardware and software that would be required in this process. Also the diversity of the populations the network is trying to reach is a significant problem.

> "One of the key issues facing library networks as well as state library agencies in 1996 was how to support a library community that is becoming much more technologically diverse, with some

> well-funded institutions providing remote patron access services via elaborate Web sites while hundreds of other libraries have only the most basic dial-up capabilities." (Brunell 1997)

As mentioned above some headway is being made in this area with the passing of the Library Services and Technology Act; however, as also noted many of the same problems still exist including funding and connectivity as well as training the trainers. Stephen Baumann has identified five problems with regard to implementing the SNL. These same obstacles may prove to be a problem for the USEIN. Among the problems identified by Baumann are a blending of cultures. (Baumann 1997) Baumann writes here of the differences among the institutions participating in the network. He also highlights the need to develop staff expertise with regard to information networking. Many librarians and library support staff need to be trained on the nuances of using the Internet and the World Wide Web. "Establishing working technical infrastructures" is also a challenge for the network members but is not insurmountable. Academic libraries may prove to be a useful partner in this case since many colleges and universities have technology support staff available to the campus libraries if they don't in fact have their own systems staff. Partnerships with public libraries can prove useful for the academic libraries as well since many students may prefer the convenience of a public library from time to time.

The Department of Education Web site provides links to several potential Web partners for the USEIN. Included among those sites is the "Curricular Resources and Networking Projects" (http://www.ed.gov/EdRes/EdCurric.html) homepage which links the user to over a dozen possible sites for advertising the USEIN. Links include Learning, the American Memory historical collections for the National Digital Library; Educational Online Sources, a "space where

anyone can contribute"; Exploratorium, a link to museums of art and science as well as a collection of exhibits and resources for teachers and students; Foreign Language Teaching Forum; and the Texas Information Network whose purpose is to "enable educators and students to move information across the barriers of time and space and to explore an evolving technology which is breaking down the isolation of the classroom." Both the personnel who put these sites online and the sites themselves could prove to be valuable links to the information community who would be interested in the United States Educational Information Network.

As noted throughout the paper links like those mentioned above may not in fact be reaching the large number of under represented groups who need the information provided by the USEIN. A possible solution to the problem of reaching all sectors of American society can be found in establishing new networks in addition to using those already existing networks noted above. In 1993 Richard Civille wrote in "A National Strategy for Civic Networking: A Vision of Change" (Civille 1993) that the vision of civic networking shows citizen groups, non-profit organizations, and local government using the information infrastructure for broad public benefit. This "public benefit" is of course implied in the goals and mission of the USEIN. Again the Telecommunications Act of 1996 has paved the way "to guarantee that the essential information needed to participate as an informed citizen in a democracy will be available to anyone, regardless of background or ability to pay." (Civille 1993) Certainly the already in-progress National Information Infrastructure (NII) will also provide the foundation necessary to accomplish this task. Part of the federal government's goal in establishing the NII is to provide an integration of hardware, software and the skills necessary to connect people with each other. (Civille 1993) Once again this affords an opportunity for the proposed USEIN.

Civille also promotes the notion of establishing new networks or "civic networks." (Civille 1993) Civic networking as promoted by the Center for Civic Networking encompasses four major points as outlined by Civille:

- The transformational power of information infrastructure to create opportunities, new public works and new public spaces for the twenty first century.
- The "loadbearing" power of information infrastructure to support and even revitalize civic institutions and local economies in sustainable ways that replace layers of bureaucratic hierarchy and deplete fewer natural resources.
- The public's power to use information infrastructure to recapture the nearly lost art of democratic decision-making and community building -- the essential discourse and debate around important issues that informs before the vote, where the public shares views and learns tolerance.
- A new interdisciplinary ethic among information architects, community activists, organizers and planners, public policy analysts, facilitators and engineers who, with the public, can reforge the democratic partnership between citizens and the government they own. (Civille 1993)

Civic networks provide an excellent partner for the USEIN. Among some of the more successful networks Civille includes the Hawaii Information Network Corporation, a private corporation which promotes the development of the information industry in Hawaii. (Civille 1993) This network provides information on state legislation and access to bulletin board systems among other networking opportunities. Inclusion of information related to education would be a perfect goal for this network. Civille also notes the efforts of "Lane On-Line" a civic network established in Lane County, Oregon which provides public telecommunication and information services to assist workers and families in transition. (Civille 1993) These are exactly the kinds of networks that would make excellent partners for the USEIN. They are first of all publicly supported networks that provide access to all forms of information and are available to all sectors of society.

Other potential partners for the USEIN include "Americans Communicating Electronically" (ACE) a growing movement of individuals and organizations who come together informally for "learning and planning" that Civille suggests can break down barriers between government agencies and the public. (Civille 1993) The Community Partnership Network in Washington state which provides access to electronic town meetings and networks government, businesses and private citizens is another example of an outstanding partner for the USEIN. Another potential partner is the Somerville Community Computing Center (SCC) in Massachusetts which provides Internet access to those who are disadvantaged as a result of job loss or illiteracy. The United States Public Health Service works in partnership with the Howard University School of Social Work to provide access to a public health network which will ultimately reach out to the economically disadvantaged. Partnerships such as this one are excellent models for the USEIN in its effort to reach out to the under represented.

In many ways the public library makes for the most logical partner for all networks including the USEIN. The public library represents the most common contact with people from all sectors of America. Public libraries represent over 15,000 potential walk-in accesses to the NII according to Civille. "They are used by four out of ten Americans every month to find books, periodicals, government databases, government documents, recordings, and videos, to search databases and to participate in community events." (Civille 1993) If these same local networks could provide access to the USEIN the potential for exposure would be tremendous.
Not only do public libraries successfully reach traditional, middle class groups in America but they are also making successful attempts at reaching non-traditional and under represented Americans. One such group in particular is the immigrant population. Although conventional wisdom may

indicate that the current wave of immigrants both legal and illegal is also a part of the information illiterate there is actually evidence of successful outreach to this group. Much of the recent research shows that Latino children in particular, are actually regular library users providing further evidence of the public libraries' success at reaching otherwise under represented groups. This further indicates the usefulness of partnering between local libraries and the proposed USEIN.

Although much of this paper has focused on access as it applies to electronic information there is also much to be considered with regard to disseminating more traditional formats namely printed information. Traditional inter library loan services must still play a major part in any library based network such as the United States Educational Information Network. Here again we look to public libraries and consortia for a model of shared resources. Agreements with the USEIN's member institutions must allow for loaning of materials whenever possible. Printed sources can be shared via U.S. mail and other carrier services. Likewise borrowing privileges should be extended to all citizens if at all possible. Similarly as much information as is possible should be made available via the web to aid in the dissemination of information as the USEIN's mission requires. Wherever necessary copyright permission should be obtained in order to "upload" the protected material.

Clearly there are many groups of people in the U.S. who don't currently have the same level of information access that is afforded others. Many of those under represented are students, their teachers and parents who live in school districts without the necessary funding to provide access to electronic networks. In addition, Americans living in rural areas, minorities, the elderly and handicapped are among those frequently left behind on the information superhighway. The

federal government has already made important strides to reverse this trend by enacting legislation that will provide the necessary funding to aid schools in "getting connected." Similarly the federal government is making progress in offering political and financial support to the National Information Infrastructure. The latter is enabling some of the most "left out" sectors of the population, notably rural and inner city residents, to "get connected" and as a result get access to information. Also, as noted above, state and regional cooperatives that already exist provide an excellent model for the proposed USEIN in its efforts to reach all Americans and provide access to all.

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